

# **SM3H Unit 7 test review answers**

1.  $c_1 \approx 12.1$  cm,  $\angle B_1 \approx 59.5^\circ$ ,  $\angle C_1 = 79.3^\circ$

$c_2 \approx 3.9$  cm,  $\angle B_2 \approx 120.5^\circ$ ,  $\angle C_2 = 18.3^\circ$

2.  $a \approx 10.5$  mi,  $\angle A \approx 54.8^\circ$ ,  $\angle C = 49.9^\circ$

3. no triangle

4. Distance from pt A to pt B is 246.6 meters.

5.  $c \approx 10.7$  km,  $\angle A \approx 42.7^\circ$ ,  $\angle B = 52.4^\circ$

6.  $\angle A \approx 26.7^\circ$ ,  $\angle B \approx 64.9^\circ$ ,  $\angle C = 88.4^\circ$

7. Distance between the two towns is 4.6 miles.

8.  $\approx 10.1$  square yards

9.  $\approx 23.6$  square meters

10.  $\approx 1265$  square inches

11.  $\theta \approx 20.2^\circ$

12.  $x \approx 71.1$  miles

13.  $y \approx 18.4$  feet,  $x \approx 24.7$  feet

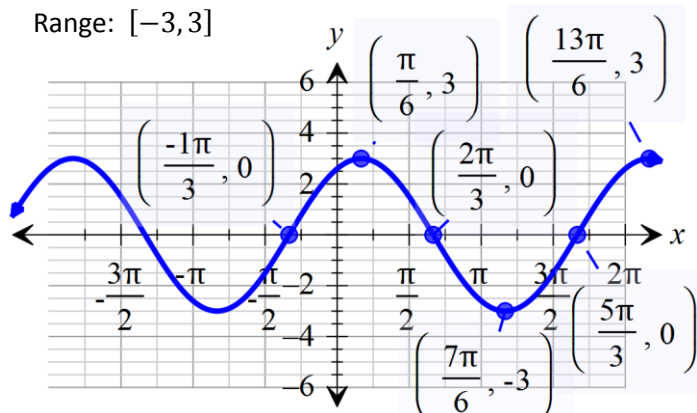
14.  $x \approx 17.1$  feet

15.  $x \approx 277.6$  miles

16. Amplitude: 3, Period:  $2\pi$

Frequency:  $\frac{1}{2\pi}$ , Phase shift: right  $\frac{\pi}{6}$

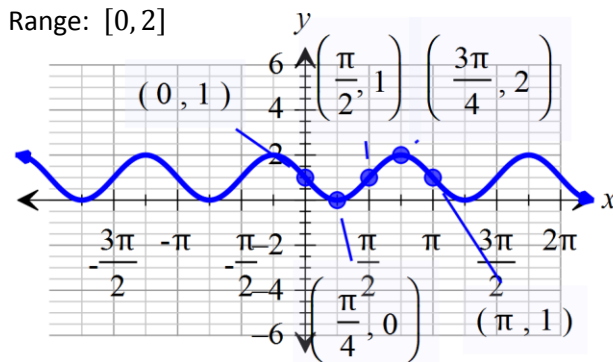
Range:  $[-3, 3]$



17. Amplitude: 1, Period:  $\pi$

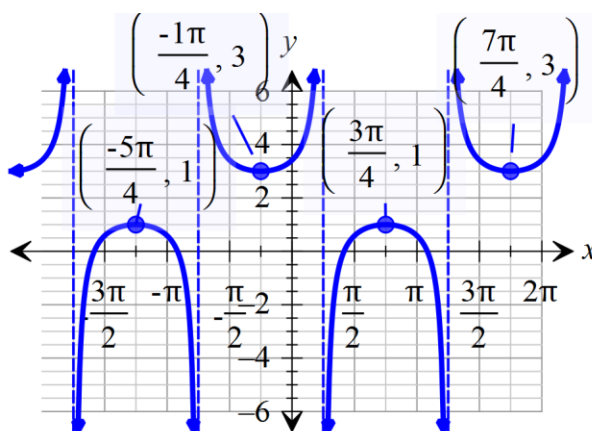
Frequency:  $\frac{1}{\pi}$ , Phase shift: none

Range:  $[0, 2]$

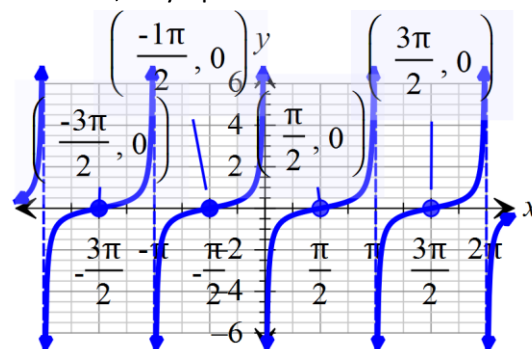


18. Period:  $2\pi$ ; Asy:  $x = \frac{\pi}{4} + \pi k$ ;

Range:  $(-\infty, 1] \cup [3, \infty)$



19. Period:  $\pi$ , Asymptotes:  $x = \pi k$



20.  $y = 3 \cot\left(x + \frac{\pi}{4}\right) + 2$

21.  $y = -\csc\left(x - \frac{\pi}{6}\right) - 1$

22.  $\left(-\frac{\pi}{6}, 3\right)$

23.  $6\pi$

24.  $y = -11 \cos\left(\frac{\pi}{6}x\right)$

25.  $f(t) = -260 \cos\left(\frac{\pi}{15}t\right) + 290$